

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: MOLLY CEPERLEY Examiner #: 59757 Date: 12/27/04
Art Unit: 1641 Phone Number: 2-0813 Serial Number: 101038,626
Mail Box and Bldg/Room Location: Rem 3A51 Results Format Preferred (Circle) PAPER DISK E-MAIL

Rem 3C70
If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc. if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____
Inventors (please provide full names): _____
See Bibliographic data sheet attached -

Earliest Priority Filing Date: 01/08/01

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

① Please search for the compounds shown in claims 8-15. Note the different structures in claims 8, 10, 11 + 14. Prefer linkers shown in claim 9. Prefer dendrimer as PAMAM (polyamidoamine).

Terms: chemiluminesce?
electrochemiluminescence? (ECL)
dioxetane
adamantane
enzyme-labile
benzothiazole
dendrimer
PAMAM
dendritic

12
65
2

STAFF USE ONLY		Type of Search	Vendors and cost where applicable
Searcher: _____	NA Sequence (#) _____	STN <u>767.23</u>	
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____	
Searcher Location: _____	Structure (#) <u>5</u>	Questel/Orbit _____	
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____	
Date Completed: <u>1/6/05</u>	Litigation _____	Lexis/Nexis _____	
Searcher Prep & Review Time: <u>45</u>	Fulltext _____	Sequence Systems _____	
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____	
Online Time: <u>77</u>	Other _____	Other (specify) _____	

L18 ANSWER (1) OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:555736 HCAPLUS
DOCUMENT NUMBER: 137:106074
ENTRY DATE: Entered STN: 26 Jul 2002
TITLE: Dendritic chemiluminescent substrates
INVENTOR(S): Sparks, Alison L.
PATENT ASSIGNEE(S): Tropix, Inc., USA
SOURCE: PCT Int. Appl., 116 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
INT. PATENT CLASSIF.:
MAIN: G01N
CLASSIFICATION: 9-14 (Biochemical Methods)
Section cross-reference(s): 6, 7
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

*Considered
02/01/05*

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002057745	A2	20020725	WO 2002-US22	20020108
WO 2002057745	A3	20030313		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG			
US 2002155523	A1	20021024	US 2002-38626	20020108
EP 1358344	A2	20031105	EP 2002-713345	20020108
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
JP 2004524521	T2	20040812	JP 2002-557779	20020108
PRIORITY APPLN. INFO.:			US 2001-259870P	P 20010108
			US 2001-286383P	P 20010426
			WO 2002-US22	W 20020108

this application

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2002057745	ICM	G01N
JP 2004524521	FTERM	2G054/AA02; 2G054/AA06; 2G054/AB04; 2G054/BA02; 2G054/CE03; 2G054/EA01; 2G054/GA09; 4B063/QA01; 4B063/QA18; 4B063/QQ42; 4B063/QQ61; 4B063/QR03; 4B063/QR10; 4B063/QR12; 4B063/QR15; 4B063/QR16; 4B063/QR32; 4B063/QR41; 4B063/QR48; 4B063/QR50; 4B063/QR56; 4B063/QR66; 4B063/QS03; 4B063/QS24; 4B063/QS33; 4B063/QS34; 4B063/QS36; 4B063/QS39; 4B063/QX01; 4J001/DA01; 4J001/DB01; 4J001/DB08; 4J001/DC06; 4J001/DC12; 4J001/DD14; 4J001/DD15; 4J001/EA12; 4J001/EA23; 4J001/EA25; 4J001/FA03; 4J001/GB14; 4J001/GE02; 4J001/GE04; 4J001/GE06; 4J001/JA20; 4J001/JB31; 4J043/PA13; 4J043/PB08; 4J043/QB06; 4J043/QB07; 4J043/RA05; 4J043/SA06;

4J043/SA62; 4J043/SB01; 4J043/TA11; 4J043/TA12;
4J043/TA53; 4J043/TA54; 4J043/TB01; 4J043/UB011;
4J043/UB221; 4J043/UB241; 4J043/YB08; 4J043/YB17;
4J043/YB21; 4J043/YB37; 4J043/ZA60; 4J043/ZB60

OTHER SOURCE(S): MARPAT 137:106074

ABSTRACT:

The invention concerns chemiluminescent substrate delivery systems comprising a conjugate a dendrimer and at least one chemiluminescent substrate are provided. The substrate delivery systems can also include a chemiluminescence enhancer. The dendrimer/chemiluminescent substrate conjugates can be used in kits including an enzyme capable of activating the chemiluminescent substrate to produce a per-oxygenated intermediate that decomps. to produce light. The dendrimer/chemiluminescent substrate conjugates can be used in assays to detect the presence of an analyte (e.g., an enzyme, an antibody, an antigen or a nucleic acid) in a sample.

SUPPL. TERM: dendrimer chemiluminescent light substrate conjugate enzyme
immunoassay nucleic acid

INDEX TERM: Sulfonic acids, uses
ROLE: NUU (Other use, unclassified); USES (Uses)
(alkanesulfonic; dendritic chemiluminescent substrates)

INDEX TERM: Sulfonamides
Urethanes
ROLE: NUU (Other use, unclassified); USES (Uses)
(alkyl; dendritic chemiluminescent substrates)

INDEX TERM: Sulfonic acids, uses
ROLE: NUU (Other use, unclassified); USES (Uses)
(arenesulfonic; dendritic chemiluminescent substrates)

INDEX TERM: Oxides (inorganic), uses
Sulfonamides
Urethanes
ROLE: NUU (Other use, unclassified); USES (Uses)
(aryl-; dendritic chemiluminescent substrates)

INDEX TERM: Amides, uses
ROLE: NUU (Other use, unclassified); USES (Uses)
(aryl; dendritic chemiluminescent substrates)

INDEX TERM: Bond
(covalent; dendritic chemiluminescent substrates)

INDEX TERM: Chemiluminescent substances
Conjugation (molecular association)
DNA sequence analysis
Immunoassay
Light
Luminescence, bioluminescence
Membranes, nonbiological
Oxidation
Test kits
(dendritic chemiluminescent substrates)

INDEX TERM: Antibodies and Immunoglobulins
Antigens
Nucleic acids
ROLE: ANT (Analyte); ANST (Analytical study)
(dendritic chemiluminescent substrates)

INDEX TERM: Probes (nucleic acid)
ROLE: ANT (Analyte); ARG (Analytical reagent use); PRP
(Properties); ANST (Analytical study); USES (Uses)
(dendritic chemiluminescent substrates)

INDEX TERM: Enzymes, analysis
 ROLE: ANT (Analyte); NUU (Other use, unclassified); ANST (Analytical study); USES (Uses)
 (dendritic chemiluminescent substrates)

INDEX TERM: DNA
 ROLE: ANT (Analyte); PRP (Properties); ANST (Analytical study)
 (dendritic chemiluminescent substrates)

INDEX TERM: Dendritic polymers
 ROLE: ARG (Analytical reagent use); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
 (dendritic chemiluminescent substrates)

INDEX TERM: Amides, uses
 Carboxylic acids, uses
 Esters, uses
 Quaternary ammonium compounds, uses
 ROLE: NUU (Other use, unclassified); USES (Uses)
 (dendritic chemiluminescent substrates)

INDEX TERM: Amines, properties
 ROLE: PRP (Properties)
 (polyamines, nonpolymeric, amido, carboxylic acid, hydroxyl, amino surface group derivs.; dendritic chemiluminescent substrates)

INDEX TERM: Solubilization
 (water; dendritic chemiluminescent substrates)

INDEX TERM: 6788-84-7DP, 1,2-Dioxetane, derivs.
 113818-92-1DP, reaction with dioxetane
 163442-67-9P, Starburst 4th Generation
 ROLE: ARG (Analytical reagent use); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
 (dendritic chemiluminescent substrates)

INDEX TERM: 9001-92-7, Protease 9013-05-2, Phosphatase
 9013-79-0, Esterase 9031-96-3, Peptidase
 9032-92-2, Glycosidase 9035-73-8, Oxidase
 14798-03-9D, Ammonium, amino linked
 16749-13-6, Phosphonium 18155-21-0, Sulfonium
 ROLE: NUU (Other use, unclassified); USES (Uses)
 (dendritic chemiluminescent substrates)

INDEX TERM: 63-74-1D, Sulfonylamide, acridinium derivs.
 521-31-3, Luminol 2591-17-5, Luciferin
 3682-14-2, Isoluminol 6788-84-7, Dioxetane
 22559-71-3, Acridinium 122341-56-4
 142849-53-4 443643-96-7
 ROLE: PRP (Properties)
 (dendritic chemiluminescent substrates)

IT 6788-84-7DP, 1,2-Dioxetane, derivs. 113818-92-1DP, reaction with dioxetane 163442-67-9P, Starburst 4th Generation
 RL: ARG (Analytical reagent use); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
 (dendritic chemiluminescent substrates)

RN 6788-84-7 HCAPLUS

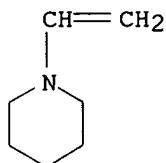
CN 1,2-Dioxetane (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 113818-92-1 HCAPLUS
 CN Piperidine, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 15311-58-7
 CMF C7 H13 N



RN 163442-67-9 HCAPLUS
 CN Starburst 4th Generation (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 9001-92-7, Protease 9013-05-2, Phosphatase
 9013-79-0, Esterase 9031-96-3, Peptidase
 9032-92-2, Glycosidase 9035-73-8, Oxidase
 14798-03-9D, Ammonium, amino linked 16749-13-6,
 Phosphonium 18155-21-0, Sulfonium
 RL: NUU (Other use, unclassified); USES (Uses)
 (dendritic chemiluminescent substrates)

RN 9001-92-7 HCAPLUS
 CN Proteinase (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9013-05-2 HCAPLUS
 CN Phosphatase (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9013-79-0 HCAPLUS
 CN Esterase (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9031-96-3 HCAPLUS
 CN Peptidase (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9032-92-2 HCAPLUS
 CN Glycosidase (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9035-73-8 HCAPLUS
 CN Oxidase (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 14798-03-9 HCAPLUS

CN Ammonium (8CI, 9CI) (CA INDEX NAME)

NH_4^+

RN 16749-13-6 HCAPLUS

CN Phosphonium (8CI, 9CI) (CA INDEX NAME)

PH_4^+

RN 18155-21-0 HCAPLUS

CN Sulfonium (8CI, 9CI) (CA INDEX NAME)

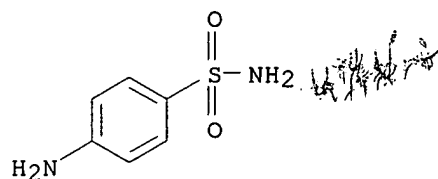
SH_3^+

IT 63-74-1D, Sulfonylamide, acridinium derivs. 521-31-3,
Luminol 2591-17-5, Luciferin 3682-14-2, Isoluminol
6788-84-7, Dioxetane 22559-71-3, Acridinium
122341-56-4 142849-53-4 443643-96-7

RL: PRP (Properties)
(dendritic chemiluminescent substrates)

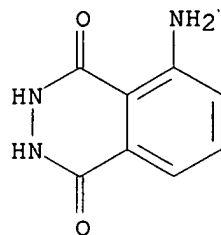
RN 63-74-1 HCAPLUS

CN Benzenesulfonamide, 4-amino- (9CI) (CA INDEX NAME)



RN 521-31-3 HCAPLUS

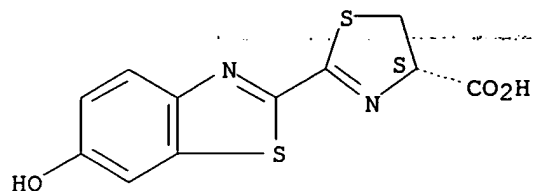
CN 1,4-Phthalazinedione, 5-amino-2,3-dihydro- (6CI, 8CI, 9CI) (CA INDEX NAME)



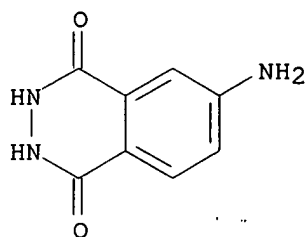
RN 2591-17-5 HCAPLUS

CN 4-Thiazolecarboxylic acid, 4,5-dihydro-2-(6-hydroxy-2-benzothiazolyl)-, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



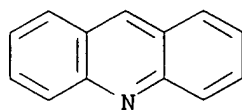
RN 3682-14-2 HCAPLUS
CN 1,4-Phthalazinedione, 6-amino-2,3-dihydro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 6788-84-7 HCAPLUS
CN 1,2-Dioxetane (6CI, 8CI, 9CI) (CA INDEX NAME)

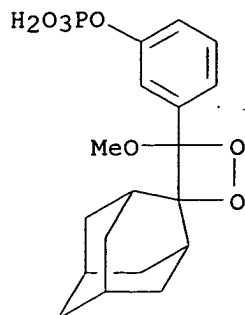


RN 22559-71-3 HCAPLUS
CN Acridine, conjugate acid (8CI, 9CI) (CA INDEX NAME)

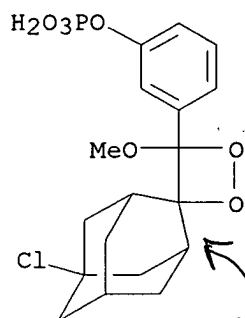


● H⁺

RN 122341-56-4 HCAPLUS
CN Phenol, 3-(4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.1^3,7]decan]-4-yl)-, dihydrogen phosphate (9CI) (CA INDEX NAME)



RN 142849-53-4 HCAPLUS
 CN Phenol, 3-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.3^{1,7}]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)

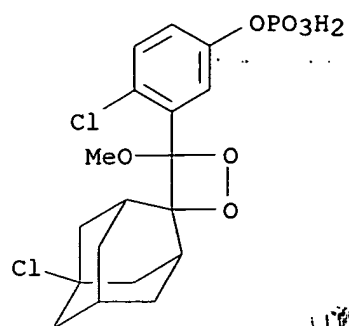


● 2 Na

No structures found with linker attached.

Structures indexed without linkers

RN 443643-96-7 HCAPLUS
 CN Phenol, 4-chloro-3-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.3^{1,7}]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



● 2 Na